CLAIMS

<u>What is Claimed is</u>:

1   1.   A system for controlling access to digital services comprising:

2   (a)   a control center configured to coordinate and provide digital services;

3   (b)   an uplink center configured to receive the digital services from the control center

4 and transmit the digital services to a satellite;

5   (c)   the satellite configured to:

6   (i)   receive the digital services from the uplink center;

7   (ii)   process the digital services; and

8   (iii)   transmit the digital services to a subscriber receiver station;

9   (d)   the subscriber receiver station configured to:

10   (i)   receive the digital services from the satellite;

11   (ii)   control access to the digital services through an integrated

12 receiver/decoder (IRD);

13   (e)   a conditional access module (CAM) communicatively coupled to the IRD,

14 wherein the CAM comprises:

15   (i)   a protected nonvolatile memory component, wherein:

16   (1)   the protected nonvolatile memory component is used to contain

17 state information to provide desired functionality and enforce one or more

18 security policies for accessing the digital services; and

19   (2)   the protected nonvolatile memory component and a

20 microprocessor's nonvolatile memory component share a programming charge

21 pump and programming control; and

22   (ii)   a fixed state custom logic block configured to control access to the

23 nonvolatile memory component.

1   2.   The system of claim 1 wherein the custom logic block has a fixed algorithm that

2 cannot be altered by external means.

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1   3.   The system of claim 1 wherein access to a block of the protected nonvolatile

2   memory component is limited to one or more functions defined in the custom logic block.

1   4.   The system of claim 1 wherein the custom logic block is implemented in solid

2   state hardware that implements a simple and well defined state machine.

1   5.   The system of claim 1 wherein the protected nonvolatile memory component is

2   not accessible through a system input/output module, system bus, microprocessor, or external

3   environment.

1   6.   The system of claim 1 wherein the nonvolatile memory component is exclusively

2   controlled through the custom logic block and does not require the use of a system bus or

3   microprocessor.

1   7.   The system of claim 1 wherein a microprocessor's nonvolatile memory

2   component and the protected nonvolatile memory component use the same physical and logical

3   address ranges.

1   8.   A method for limiting unauthorized access to digital services comprising:

2   (a)   configuring a protected nonvolatile memory component, wherein:

3   (i)   the protected nonvolatile memory component is used to contain state

4   information to provide desired functionality and enforce one or more security policies for

5   accessing the digital services; and

6   (ii)   the protected nonvolatile memory component and a microprocessor's

7   nonvolatile memory component share a programming charge pump and programming

8   control; and

9   (b)   controlling access to the nonvolatile memory component through a fixed state

10   custom logic block .

1   9.   The method of claim 8 wherein the custom logic block has a fixed algorithm that

2   cannot be altered by external means.

1   10.   The method of claim 8 wherein access to a block of the protected nonvolatile

2   memory component is limited to one or more functions defined in the custom logic block.

1   11.   The method of claim 8 wherein the custom logic block is implemented in solid

2   state hardware that implements a simple and well defined state machine.

1   12.   The method of claim 8 wherein the protected nonvolatile memory component is

2   not accessible through a system input/output module, system bus, microprocessor, or external

3   environment.

1   13.   The method of claim 8 wherein the nonvolatile memory component is exclusively

2   controlled through the custom logic block and does not require the use of a system bus or

3   microprocessor.

1   14.   The method of claim 8 wherein a microprocessor's nonvolatile memory

2   component and the protected nonvolatile memory component use the same physical and logical

3   address ranges.

1   15.   A conditional access module (CAM), comprising:

2   (a)   a protected nonvolatile memory component, wherein:

3   (i)   the protected nonvolatile memory component is used to contain state

4   information to provide desired functionality and enforce one or more security policies for

5   accessing digital services; and

6   (ii)   the protected nonvolatile memory component and a microprocessor's

7   nonvolatile memory component share a programming charge pump and programming

8   control; and

9   (b)   a fixed state custom logic block configured to control access to the nonvolatile
10   memory component.

1   16.   The CAM of claim 15 wherein the custom logic block has a fixed algorithm that
2   cannot be altered by external means.

1   17.   The CAM of claim 15 wherein access to a block of the protected nonvolatile
2   memory component is limited to one or more functions defined in the custom logic block.

1   18.   The CAM of claim 15 wherein the custom logic block is implemented in solid
2   state hardware that implements a simple and well defined state machine.

1   19.   The CAM of claim 15 wherein the protected nonvolatile memory component is
2   not accessible through a system input/output module, system bus, microprocessor, or external
3   environment.

1   20.   The CAM of claim 15 wherein the nonvolatile memory component is exclusively
2   controlled through the custom logic block and does not require the use of a system bus or
3   microprocessor.

1   21.   The CAM of claim 15 wherein a microprocessor's nonvolatile memory
2   component and the protected nonvolatile memory component use the same physical and logical
3   address ranges.

1   22.   An article of manufacture for preventing unauthorized access to digital services
2   comprising:
3   (a)   means for configuring a protected nonvolatile memory component, wherein:
4   (i)   the protected nonvolatile memory component is used to contain state
5   information to provide desired functionality and enforce one or more security policies for
6   accessing the digital services; and

7   (ii)   the protected nonvolatile memory component and a microprocessor's

8   nonvolatile memory component share a programming charge pump and programming

9   control; and

10   (b)   means for controlling access to the nonvolatile memory component through a

11   fixed state custom logic block.

1   23.   The article of manufacture of claim 22 wherein the custom logic block has a

2   fixed algorithm that cannot be altered by external means.

1   24.   The article of manufacture of claim 22 wherein access to a block of the

2   protected nonvolatile memory component is limited to one or more functions defined in the

3   custom logic block.

1   25.   The article of manufacture of claim 22 wherein the custom logic block is

2   implemented in solid state hardware that implements a simple and well defined state machine.

1   26.   The article of manufacture of claim 22 wherein the protected nonvolatile

2   memory component is not accessible through a system input/output module, system bus,

3   microprocessor, or external environment.

1   27.   The article of manufacture of claim 22 wherein the nonvolatile memory

2   component is exclusively controlled through the custom logic block and does not require the use

3   of a system bus or microprocessor.

1   28.   The article of manufacture of claim 22 wherein a microprocessor's nonvolatile

2   memory component and the protected nonvolatile memory component use the same physical

3   and logical address ranges.